

Art Unit: 1653

**Examiner's Amendments to the Claims:**

Claims 30, 36, 40 and 41 have been amended as follows:

30. (Currently amended) A pure peptide having bifidogenic properties, and wherein the peptide is [-] an amino acid sequence selected from the group consisting of:

- a) [R<sub>1</sub>-]EVAARARVVW[-R<sub>2</sub>] (SEQ ID NO: 8),
- b) [R<sub>1</sub>-]ARRARVVWAAVG[-R<sub>2</sub>] (SEQ ID NO: 22),
- c) [R<sub>1</sub>-]ARRARVVWCAVG[-R<sub>2</sub>] (SEQ ID NO: 14), and  

$$\begin{array}{c} | \\ [R_3-]C[AlA]L[-R_4] \end{array}$$

(SEQ ID NO: 15)
- d) [R<sub>1</sub>-]ARRARVVWCAVGE[-R<sub>2</sub>] (SEQ ID NO: 16)[,]  

$$\begin{array}{c} | \\ [R_3-]C[AlA]L[-R_4] \end{array}$$

(SEQ ID NO: 15).

[wherein

R<sub>1</sub>, R<sub>2</sub> independently represent H or a peptide containing up to 100 amino acids; and R<sub>3</sub>, R<sub>4</sub> independently represent OH, NH<sub>2</sub> or a peptide containing up to 100 amino acids;

-the amino acid sequence N-modified by amidation, acetylation, sulfation, phosphorylation, glycosylation, or oxidation; or

-a fusion protein, thereof, obtained by chemical bonding.]

36. (Currently amended) A pure peptide having bifidogenic properties and selected from the group consisting of SEQ ID NO:14 and SEQ ID NO:16.

40. (Currently amended) A pure peptide having bifidogenic properties, and wherein the peptide is

[a)] an amino acid sequence selected from the group consisting of:

- [R<sub>1</sub>-]EVAARARVVW[-R<sub>2</sub>] (SEQ ID NO: 8),
- [R<sub>1</sub>-]ARRARVVWCAVG[-R<sub>2</sub>] (SEQ ID NO: 14),  

$$\begin{array}{c} | \\ [R_3-]C[AlA]L[-R_4] \end{array}$$

(SEQ ID NO: 15)
- [R<sub>1</sub>-]ARRARVVWCAVGE[-R<sub>2</sub>] (SEQ ID NO: 16),  

$$\begin{array}{c} | \\ [R_3-]C[AlA]L[-R_4] \end{array}$$

(SEQ ID NO: 15)

[R<sub>1</sub>]GRRRSVQWCAVSQPEATKCFQWQRNMRKVRGPPVSCIKRDSPIQCIQ  
A[-R<sub>2</sub>]

(SEQ ID NO: 19),

[R<sub>1</sub>-]ARRARVVWAAVG[-R<sub>2</sub>] (SEQ ID NO: 22), and

[wherein

R<sub>1</sub>, R<sub>2</sub> independently represent NH<sub>2</sub>, an amino acid, or a peptide containing up to 100 amino acids; and

R<sub>3</sub>, R<sub>4</sub> independently represent COOH, CONH<sub>2</sub>, an amino acid, or a peptide containing up to 100 amino acids, or]

[R<sub>1</sub>]YQRRPAIAINNPYVPRTTYANPAVVRPHAQIPQRQYLPNSHPPTVVRR  
PNLHPSF[-R<sub>2</sub>] (SEQ ID NO: 17)[,].

[wherein

R<sub>1</sub>, R<sub>2</sub> independently represent H, or a peptide containing up to 100 amino acids excluding amino acid sequence 1-62 of human κ-casein, and

R<sub>3</sub>, R<sub>4</sub> independently represent OH, NH<sub>2</sub>, or a peptide containing up to 100 amino acids excluding amino acid sequence 1-62 of human κ-casein;

or

b) the amino acid sequence N-modified by amidation, acetylation, sulfation, phosphorylation, glycosylation, or oxidation.]

41. (Currently amended) A pure peptide having bifidogenic properties, and wherein the peptide is [-] an amino acid sequence selected from the group consisting of:

- a) EVAARARVVW (SEQ ID NO: 8),  
b) ARRARVVWCAVG (SEQ ID NO: 14),  
c) ARRARVVWAAVG (SEQ ID NO: 22), [or] and  
d) [R<sub>1</sub>-]ARRARVVWCAVG[-R<sub>2</sub>] (SEQ ID NO: 14),  
[R<sub>3</sub>-]CIAL[-R<sub>4</sub>] (SEQ ID NO: 15).

[wherein

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$R_1$ ,  $R_2$  independently represent H or a peptide containing up to 100 amino acids; and

$R_3$ ,  $R_4$  independently represent OH,  $NH_2$  or a peptide containing up to 100 amino acids; or

-the amino acid sequence N-modified by amidation, acetylation, sulfation, phosphorylation, glycosylation, or oxidation.]